

August 1988

The National Locksmith®



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This code series will be used for 1989 Chrysler vehicles including Dodge Spirit and Plymouth Acclaim. Save 'em for future reference!

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August 1988



Special Padlock Issue

On The Cover

Our padlock issue features products from the following companies, in alphabetical order: Abloy Security Lock; Abus Lock Company; American Lock and Master Lock. See our special padlock product review section beginning on page 28. More information is available to you through our Rapid Reply system. (Cover photo by Dave Wilkes).

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Commentary

Random Notes From A Heat Stricken Editor

As some of you have figured out by now, something didn't look kosher about the Honda codes we printed last month. What looked funny were the spacings we listed for the codes. A couple of you have called or written to me about this problem. I'm glad we have such sharp eyed locksmiths. At least now I know that someone is reading what we publish.

There was only one error in the spacings; we accidentally printed a typo. Therefore, on page 66 we are re-printing the correct spacings. I am sorry for any inconvenience this may have caused you. Be sure to mark this correction in on your July issues.

Lately it has seemed that so many of the locksmithing "greats" are passing away. Another important industry member, Hollis De Vines, has recently left us. As you will notice, Hollis' name appears on our masthead as a Technical Advisor. He has served us in that capacity for a number of years.

Hollis De Vines devoted much of his life to improving the level of education available to the locksmith. He was a pioneer in the subject of masterkeying instruction. Much of what is taught today on masterkeying started through the efforts of Hollis De Vines. Our industry is better off for his devotion and tireless efforts on our behalf. Thank you, Hollis. We will miss you.

I am fresh back from the ALOA convention in Las Vegas. I say fresh back because it was a relief to get back to the 95 degree weather here in Chicago. Vegas weighed in with temperatures somewhere over 100 degrees. Yes, I know...it's dry heat. But you can still bake a turkey in the car if you close the windows.

Anyway, I did feel that the convention was very productive because the training opportunities are great. Moreover, it is terrific for locksmiths from all parts to gather together in one place. The people who did attend were very interested in the exhibition, so I must say that the convention was a success.

However, I do hope that we never again hold another ALOA show in Las Vegas. Not just because of the heat mind you. The fact is that people come to Las Vegas to PARTY! And in a big way. This presents a real distraction from the intent of the show. Too many people fled the exhibition hall early Friday afternoon to go play. I believe the same thing happened on Saturday. I attended the ALOA show in Las Vegas in 1982. We had a similar experience there that year also.

My compliments go out to ALOA for their choices of location for the next couple of years. It looks like Atlanta and then Chicago will host the convention. I believe those cities will better lend themselves to the convention.

In other ALOA related news, I have learned that Executive Director Mary Hammond has left the organization. She will be marrying and then will move all the way to South Africa. Therefore, the association is now conducting a search for a new executive director. They expect to have someone in place by October.

Also, President of ALOA Len Passarello has asked me to pass along the following message. He would like each regional association and each chapter to name a representative to act as a liason to ALOA. These representatives would be asked to attend ALOA board of directors meetings and to work actively in the organization by serving on committees. This will help keep ALOA, the regionals and the chapters in closer touch with one another.



Marc Goldberg
Editor/Publisher

August 5

Letters

Comments, Suggestions and Criticisms

The National Locksmith is interested in your view. We do reserve the right to edit for clarity and lengths. Please address your comments, praise, or criticism to: Editor, The National Locksmith, 698 Bonded Parkway, Streamwood, IL 60107. All letters to the editor must be signed.

Phelps Clarifies Article On Installation

I enjoyed reading Jack Robert's article in the June 1988 issue of *The National Locksmith*, but I take exception to one of the items he noted.

Normal installation of the Phelps system on a mall type overhead gate usually consists of a Master lock mounted on the wall adjacent to the gate and locking into or over the bottom rail of the gate. An interlock is usually mounted on the opposite wall locking over the bottom rail and an interlock is mounted on the electric key switch. A fire lock and/or interlock is installed on the rear door. While there are instances when the master time lock is installed to cover a key switch or existing cylinder, this is the exception rather than the rule.

Alan Benjamin
General Manager
Phelps Time Security Co.

Reader Responds To Police Interference Problem

Having read a letter in the May issue of *The National Locksmith* regarding a locksmith interfering with police work, I feel a need to comment.

I am very pleased when I see ads in the magazine that suppliers will not sell our locksmith tools to police departments. I only wish all the manufacturers of our tools would do the same thing.

First of all let me say this. Opening locked doors of automobiles is not considered official police business. The law states that our tools in the possession of a person who is not a locksmith, is considered to be burglar tools (police officers are no exception). If this police officer did not have the identification to prove that he had completed the schooling to be a locksmith, he should have been arrested and relieved of his duties. If the police chief knows that this officer is not qualified to have our locksmithing tools, then the police chief should be arrested also for being an accessory after the fact.

Do you realize what this country would be in for if anyone could have our tools with no regulations? Nothing would be safe. I would suggest to the employer to contact the sheriff or the city prosecutor and they can enlighten the police chief. According to my knowledge of the law, if the police

officer would have arrested the employee, it would have been a false arrest and the police and the city could be in a very bad situation.

In closing, let me ask this question. If I had an electrical problem or a plumbing problem at my home, would a police officer come and fix it for me? Probably not because they are not electricians or plumbers and they are not locksmiths either.

Maybe the laws in Michigan differ from other states. If so, a law should be passed that no police agency could have any locksmithing tools. This would prevent a lot of hard feelings and perhaps some court cases.

Garvey's Locksmithing
Ohio

Weiser Shim Pick Use Disputed

I beg to differ on the procedure outlined in the May 1988 *Shop Talk* column of *The National Locksmith* magazine, regarding the Weiser "shim pick." Although it probably does function as described, I feel that it was originally intended to be used as a shim, hence its name—shim pick.

If anyone has tried to shim open a Weiser key-in-knob with a conventional shim, they'll know it is darned near impossible. This tool, when inserted from the rear of the outer

Continued on page 81



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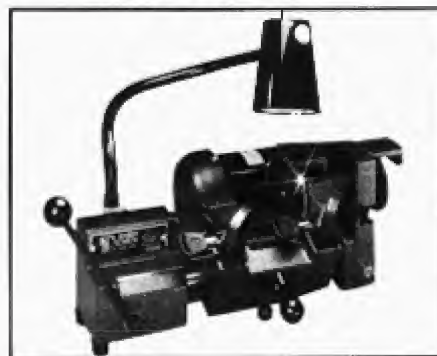
The Free Flo



Second Prize

Designed to cut Medeco® and Emhart® keys. Duplicates a Medeco® key very quickly and accurately. Will also cut regular cylinder keys. By Fulton Lock.

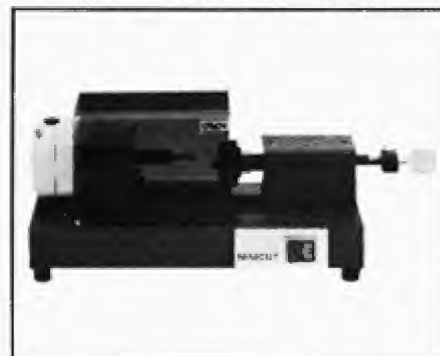
Saber Tooth



Third Prize

A fast semi-automatic duplicator featuring carbide cutter, full 1/3 hp motor, 2400 rpm. Working lamp and deburring brush are standard. From The Locksmith Store.

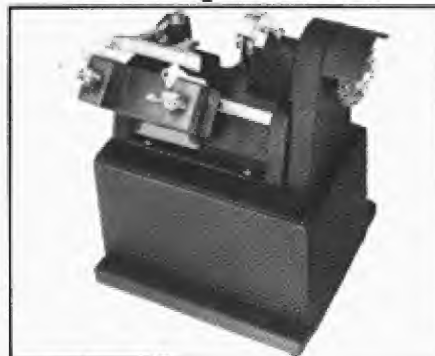
Ilco KD94



Fourth Prize

Cuts the 1137 tubular key, brass or steel accurately and quickly. Features include large chuck to hold standard size key heads, easily adjustable.

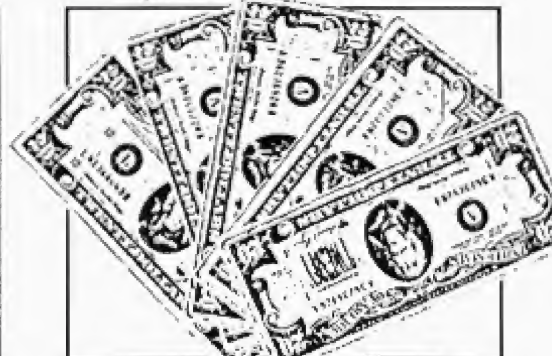
9150 Speedex



Fifth Prize

The Speedex has been transformed from the old stand-by to the machine for today's needs. Features double sided jaws. From HPC.

\$100.00 Cash



Sixth Prize

Everyone can use a few extra dollars! This prize will brighten your day...and fatten your wallet.

Contest Rules

All you need to do to enter is submit a tip, covering any aspect of locksmithing to *The National Locksmith*. Certainly, you have a favorite way of doing things that you'd like to share with other locksmiths. Why not write it down and submit it to: Steve Spiwak, Technitips' Editor, *The National Locksmith*, 698 Bonded Parkway, Streamwood, IL 60107.

Tips submitted to other industry publications **will not be eligible!** So get busy and send in your tips today! You may win cash, merchandise, or even one of several key machines! At the end of the year, we choose the winners of the above prizes.

Last year dozens of people walked off with money and prizes. Wouldn't you like to be one of the prize winners for 1987? Enter today! It's a lot easier than you think!

Every Tip Wins 'Locksmith Bucks!'

Yes, every tip published wins a prize. But remember, you must submit your tip to *The National Locksmith* exclusively. Each and every tip published in Technitips wins you \$20.00 in Locksmith Bucks! Use this spendable cash toward the purchase of any books or merchandise from *The National Locksmith*. You also receive a Bonded Locksmith bumper sticker, decal and patch. Plus you are now eligible for the really big prizes!

Best Tip of the month prizes!

If your tip is chosen as the best tip of the month, you will win \$50.00 in cash as well as \$30.00 in Locksmith Bucks! Plus you will receive a quartz Locksmith watch, a Bonded Locksmith bumper sticker, decal, patch and a Locksmith Cap. Plus, you may win one of the great prizes pictured above.

Technitips

Helpful Hints from Fellow Locksmiths



Send me your Technitips. Who knows, you may be our next winner! c/o The National Locksmith, 698 Bonded Parkway, Streamwood, IL 60107.

by Robert Sieveking

This month Technitips show a considerable amount of originality. A unique quality of the locksmith trade is that every job is just a little bit different from the last.

I was asked recently, "What was the hardest thing for you to learn when you went into business?" After considerable thought, I had to answer, "Setting a fair price on my services." A service must consist of the three basic "T's":

Tools, Training and Time. In order to perform a specific job, the locksmith must have the proper tools and parts to perform the job in an expedient and professional manner. He must also have the training and experience necessary to use those tools to properly perform the work. Finally the locksmith must devote his time, making himself available for calls when the customer needs service.

Your success in the locksmith trade is directly related to the commitment you make to meeting these basic requirements of good service. Do you stock new key sections as they come on the market? Do you add to your collection of codes and code cutting equipment as new ones are made available? As new opening tools become available

to solve opening problems you will encounter with the new higher security automotive locks, are you adding these tools to your bag of tricks? When was the last time you bought a book to expand your knowledge in the trade? Did you enroll in any of the classes at ALOA this year? If the phone rings right now, are you ready to roll? If it were 11:00 p.m., would you be willing to give up a little sleep to make sure your customer get the service he needs?

If you answered the majority of these questions in the affirmative, you know how much dedication you have to insuring that your customers receive the best service possible. You are also aware of what this service costs you. If you give good service, you are entitled to a good wage and a good standard of



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living. Be fair, but don't sell your service too cheaply. By the same token, don't short change your customers on good service.

Good service, at any price, is truly rare these days.

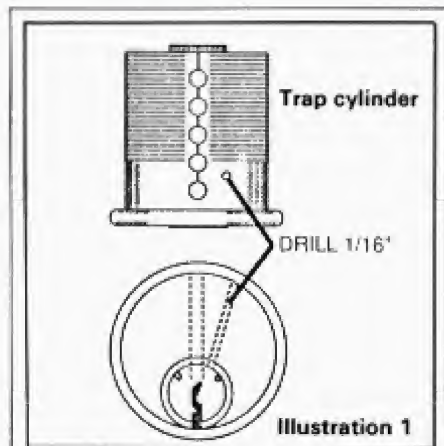
Congratulations to all those whose Technitips are printed this month.

August's Best Tip

As a locksmith for a college, I often get requests from public safety for a way to retrieve unauthorized keys from students. Recently, this

request was made because a key was being used to enter a dorm after lock-up at night. It was not known whether a student or someone else had the key. My solution was the construction of the trap cylinder shown in illustration one.

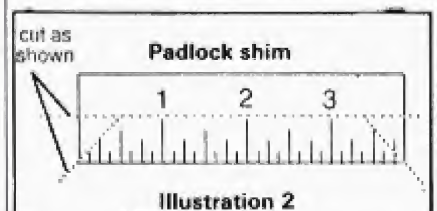
To make the trap cylinder, drill 1/16" hole in the cylinder, just to one side of the pin chambers, between the first and second pin of the lock. Once this hole has been drilled, reinstall the lock plug and drill the plug slightly off center from the locked position of the plug. Drill



approximately 1/16" into the lock plug. Drill two holes in the plug, so the key will be trapped without opening the lock regardless of the direction of key rotation. Re-pin the lock to the desired key to be trapped. Place a small finishing nail with both ends ground flat into the hole in the cylinder.

When the cylinder is turned, gravity will cause the pin to drop into the drilled hole in the plug, preventing any further motion and trapping the desired key. To remove the key, use a strong magnet to move the pin out of the plug and allow the plug to be returned to the neutral position. The key is removed and the trap reset, without disassembling the cylinder. This tip is especially helpful in cases when the trap cylinder is on a door that is not otherwise accessible from the other side, such as storage closets and gear lockers. By removing the steel pin in the cylinder, the lock can be placed back in service without replacement or further modification.

Another quick tip. For opening padlocks that use a spring locking bolt, use an old tape measure split down the middle and beveled at both ends as shown in illustration two. Slide the shim down between



the shackle and the lock body to push the spring bolt back and open the lock. Be careful, the edges of the tape can be very sharp.

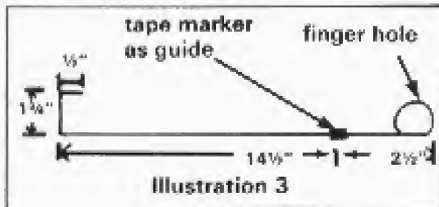
Joseph Ferrero
New York



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I have found on the 1987 and 1988 Nissan Hardbody trucks and Pathfinders that I have had problems using a Slim Jim or similar opening tool. After studying the mechanism, I made this simple tool from a piece of stout wire. Illustration three shows the shape

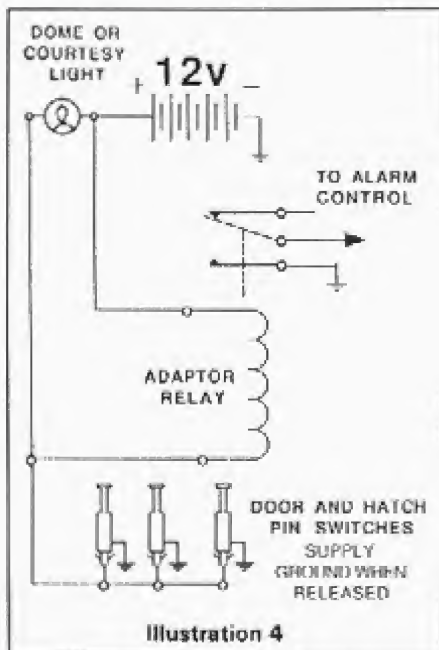


and proper dimensions for the tool. The tape marker is used to gauge the depth of the tool in the door, to insure proper placement.

Wedge the glass away from the weather strip, to allow the tool to be inserted easily and without damage to the rubber molding. Insert the opener in the lower right hand corner of the drivers window, with the finger hole toward the rear of the vehicle. Insert the tool until the tape marker hits the weather strip. Turn the opener 1/4 turn, so that the finger hole faces out. Slide the tool as far to the right as possible and gently pull straight up to open the vehicle. With a little practice, the entire procedure should take only a few seconds.

R.A. Carter
Republic of the Phillipines

This tip involves an unusual problem that I encountered while installing an auto alarm. The current sensing circuit of the alarm would not respond to the operation of the dome light. All other



functions of the alarm worked perfectly, but the action of opening a door, which turned on the dome light, would not trigger the alarm circuit. My solution for this problem was to wire in a simple relay to detect the ground on the dome light circuit. This solution eliminates the expense and work involved in installing additional pin switches on the doors and deck lid. Illustration four shows the relay circuit used.

When a door or the hatch lid is opened, ground is supplied to the relay coil, and the relay contact closes. This supplies a ground to the alarm controller to trigger the alarm. The relay is wired into the dome light circuit and the ground is connected to the contact of the control unit, which would normally be connected to a grounding pin switch.

Stan Runyon
Ohio

This tip is what I call the "thirty second" safe opening. I have used this method for years, to open small insulated safe containers. It will work on most any brand of container that uses the spring type bolt lock to secure the door. Many manufacturers have made this small type of container in the past, and some still do. (Meilink, Sentry, Diebold, Victor and also labels for Sears and other large retailers.)

These safes all have one thing in common. They have the combination or key lock within 1 1/2" to 3" from the opening edge of the door. Most of the time I do not use this tip on the key lock safes, as they usually pick quite easily, but this is a valid idea if the lock is defective or the cylinder, after picking, does not retract the spring-bolt far enough to free the door.

The previous method of servicing these units was to drill a small hole (approximately 1/8"), about 13/16"



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down from the face of the door, through the edge of the safe, in line with the lock bolt. By pushing in a stiff piece of wire, the spring bolt is pushed back and the door opened. The hole is repaired using a pop rivet, drive screw or a dab of liquid steel.

My opening method requires no repair and takes only about 30 seconds or less, once you have mastered the technique. Simply drop the container from about 16" above the floor, to impact on the hinge side of the safe. To prevent marring the floor or the safe, place a piece of plywood or cardboard under the safe before dropping it. In a bind, a piece of 2" x 4" will also do nicely.

The impact of the safe hitting the floor will cause the spring bolt to be jarred back and the door will fall open. This method must be seen to be believed. There are a few special dropping techniques that can be used. I use the safe parallel to the floor, while sometimes I angle the hinges below the safe before dropping it. A word of caution, "this method does not have the greatest customer appeal, and should thus be performed after the customer has gone."

Some special cautions: 1. Make

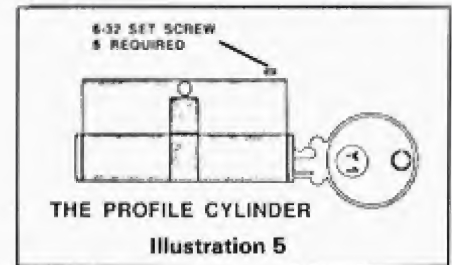
sure that there is nothing breakable in the unit. 2. Be sure that there are no explosives or loaded guns in the safe. 3. Make sure there is a small amount of free travel in the door, at least 1/16". A box can be so full of papers that the latch is jammed. The tip will not work if the latch is jammed.

Dale Libby
Illinois

This tip deals with one method of recombining the profile type cylinders, common to newer architectural window door units.

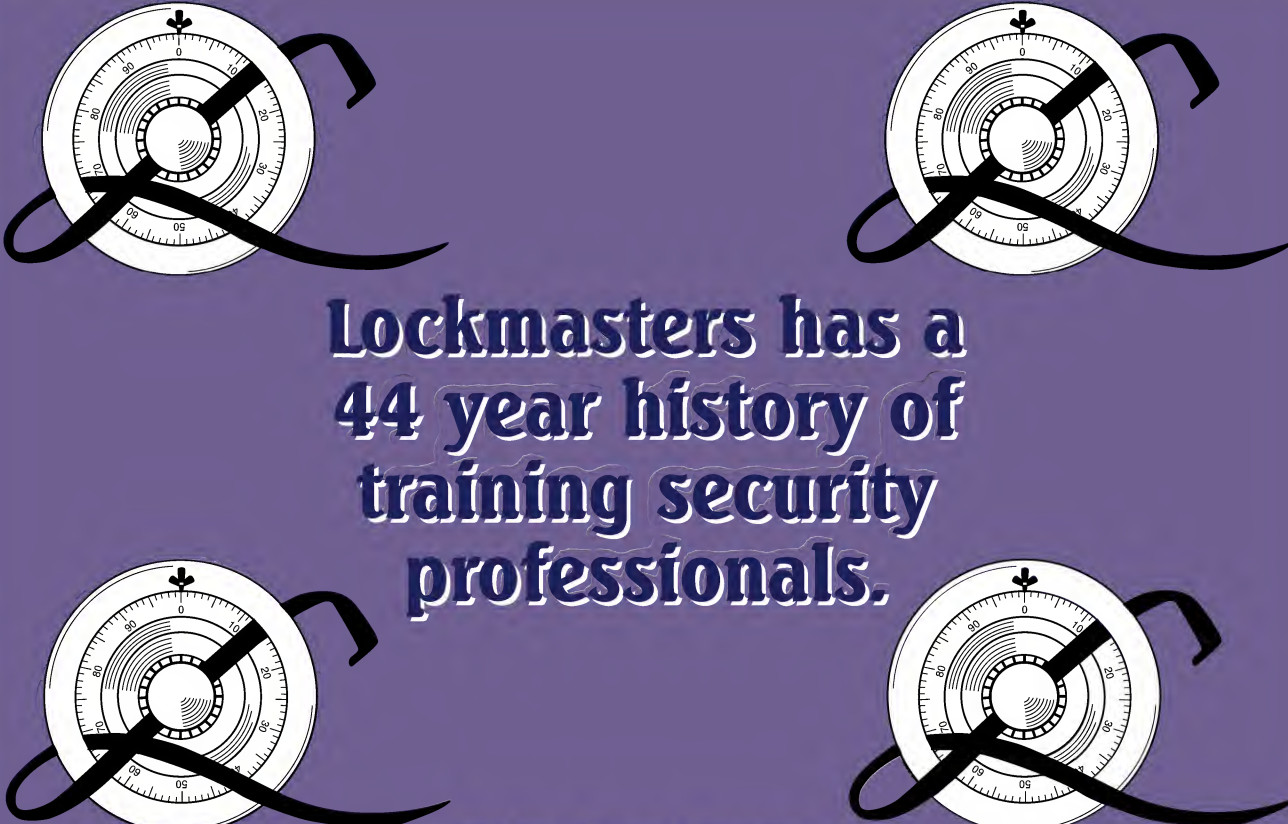
The first step is to remove the inner clips and disassemble the cylinders for recombining. Reload the top pins on one side of the cylinder using a standard plug follower, and reassemble that side of the cylinder. Repin the second plug to the new key and set it aside. Drive the brass caps on the remaining side of the profile cylinder down and out the inside of the cylinder. This will allow the top pins and springs to be loaded from the top. (See illustration 5.)

At this point, you have a choice of



reusing the old caps, or using a 6-32 tap to tap the bible portion of the cylinder to accept set screws. The caps can be reused if they are flattened out oversize and driven in very carefully. If you opt for the set screws, only tap the upper portion of the bible in about four or five full threads. This way, the set screw will bottom and jam tight when it is installed.

Another tip on the set screws is to choose the shortest ones available (usually 1/8"). Place a set screw on the tip of the hex wrench to hold it and grind it shorter, to a flat tip. If you grind it down far enough, the hex wrench will poke through the bottom of the socket. At this point, it will be about three or four threads in length. Grind carefully and remove any burrs or it will be hard to start into the threaded bible holes.



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Install the combined second plug, actuator, retaining rings and replace the top pins and springs. Install the set screws in the bible to retain the top springs and the job is complete.

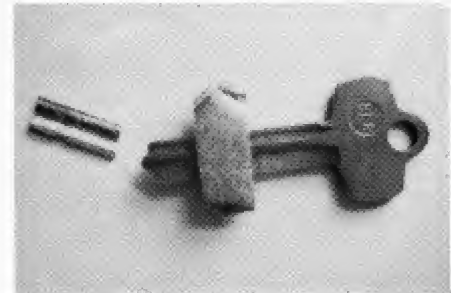
Julian Luna
California

This tip concerns the making of custom vise jaw adaptors for those keys that are difficult to hold securely in the key machine vises. Custom adaptors are quick and easy using Woods metal and the following procedure. Woods

metal, available through some locksmith wholesale houses, has an extremely low melting temperature.

Lay the key on a flat metal surface and spray it lightly with a silicone lubricant. This will act as a parting agent, preventing the Woods metal from adhering to the key blank. Use a propane torch to melt a small amount of the Woods metal over the blank. The metal should be dripped over the blank to a width at least equal to the width of the key machine vise jaws. Lay two key blanks of equal thickness on either side of the first key. Place a dime on top of these keys and lay a piece of 1/8" steel

over the top of this. Heat the 1/8" plate until the Woods metal begins to melt. Press the plate down to form a parallel side on the Woods metal. Saw and file the piece of Woods metal as shown in photograph six. You will need to make



6. Piece of Woods metal sawed and filed.

two of these adaptors for each key you have difficulty holding in your key machine (one for the pattern key and one for the key being cut). In some cases, you may want to make adaptors for both sides of the key.

I have used this method with good results on the Best keyways, which were designed specifically to be difficult to hold in standard key vises. They are also very handy when cutting the new novelty plastic keys, as they will prevent the key vise from crushing the milling on these soft blanks.

Carl Lambert
Massachusetts

My tip concerns the modification of an inexpensive otoscope for the purpose of lock reading. Using one of the inexpensive otoscopes, available for around \$25 through the locksmith supply houses, the modification is the addition of a pin depressor to the speculum. (The speculum is the funnel shaped plastic piece that you look through.)

Use a piece of .020" spring wire (music wire) about 2" long. Holding the spring wire in a pair of pliers, heat the wire over a flame until it is hot enough to melt into the speculum. Poke the wire through the plastic, just below the viewing hole. The plastic will melt to form a weld around the wire. Hold it in place until the plastic cools. If you feel that the depressor is not secure enough, you can add a little Epoxy around the wire for added support. The depressor should extend about an inch beyond the tip of the plastic speculum for best results.

This tool is especially useful on locking gas caps and "T" handle locks that do not have codes. Another advantage

Continued on page 82

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Newsmakers

New Products and Industry News

Corby Systems Equipped With Heavy Duty Keypads

Access Control Systems from Corby Industries, Inc. are now available with new Corby Heavy Duty Keypads for use outdoors or in high traffic areas. Three new keypad models are available. They are weatherproof and utilize full-size telephone style buttons.

Red and green LEDs are included for visual feedback. Other features include gold keypad contacts, surface and flush mounting, universal binary output, and positive tactile feedback.

The new Model 4062 keypad is mounted on a locking stainless steel faceplate and housed in a heavy-gauge steel cabinet. The assembly includes a 40" high "gooseneck" bracket ideal for parking lots.



New Rixson Brochure Highlights Door Designs

Rixsons-Firemark's new 12-page, four-color brochure, "The World of Rixson," explores a multitude of design options possible with Rixson door hardware and controls.

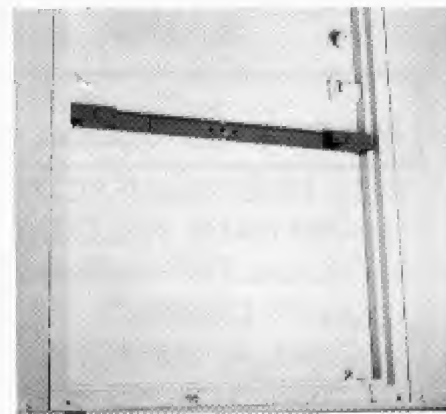
The brochure features a variety of interior and exterior door installations and demonstrates the uses of Rixson hardware. The brochure also presents information on a range of Rixson products available for interior and exterior door control.



Secur-A-Door Locks For Exterior Metal Doors

The Secur-A-Door Lock Company announces the release of the Secur-A-Door lock. Most exterior metal passage doors need additional locking hardware so they currently use either a 2x4 with brackets or a metal bar to add security. With the Secur-A-Door lock, the unit is permanently affixed to the door eliminating the need to remove and replace the cross bar every time the door is opened (unlocked) and closed (relocked).

The Secur-A-Door lock comes in two models to accommodate different stop sizes, allowing the dealer or locksmith a one stop sale/installation. The unit also adds additional strength to doors, is easily locked and unlocked and will accept padlocks.



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NuTone's Built-In Wall Safes

NuTone's built-in wall safe is simple to install in standard 2 x 4" walls where the safes flush-mount between 16" o.c. studs. They are easily concealed behind cabinets, pictures, in closets, etc. They install in floors as well (the lock projects 1/2").

The safes, available in two sizes, are constructed of heavy-gauge steel with seamless bodies and double-reinforced doors. A patented lock design protects against forced entry by employing two shear pins that break away and rotate



freely if a pick or drill is used. Eight stainless steel tumblers inside the lock features two or more 'false' positions to resist picking. The lock exterior is a tough high-alloy steel, nickel-plated for corrosion-resistance. The lock is UL Listed.

Circle 382 on Rapid Reply

Harrow Acquires Security Engineering

Harrow Products, Inc. announces the acquisition of Security Engineering, Inc. of Forestville, CT. Harrow plans to combine its Locknetics Security Products Company of Hamden, CT with Security Engineering. The new company will be called Locknetics Security Engineering.

Locknetics and Security have over 30 years combined industry experience, and each is a major force in the market. The acquisition brings together these two companies to produce electronic and electromagnetic locking devices for security systems.

The operations of both companies will be combined. Manufacturing facilities will be located in Forestville, CT.

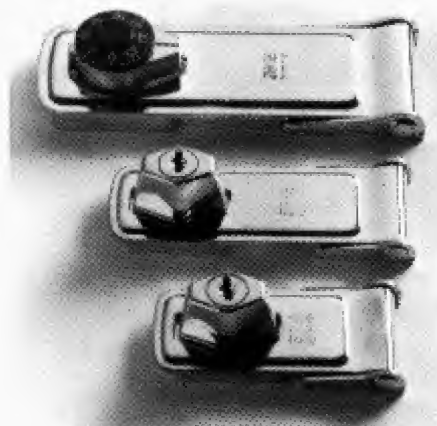
Circle 299 on Rapid Reply

Combination & Key Hasps Available From Stanley

Stanley Hardware has expanded its Lifespan® hasp line to feature a combination dial hasp, model CD922, and key locking hasp, model CD921.

Available for the first time, Stanley's 6" combination hasp CD922 can be latched without locking and has a convenient dial lock for security.

The CD921 key locking hasp, available in 3 1/2" and 4 1/2" sizes, requires the use of a key for locking, thus preventing inadvertent lockouts. It too can be latched without locking.



Circle 300 on Rapid Reply

NATIONAL

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Adesco Safe Adds Products And Literature

The Adesco Safe Company recently announced the introduction of new products, literature, and a new price list with reference format.

The new products include the Quad Bolt "B" and "BC" safes using four ¾" diameter plated bolts; large door TL15 floor safes with the Adesco maximum security barrier locking design and drive resist; and anti-sledgehammer features.



A new two color brochure is now available to dealers for distribution. The brochure is formatted in such a way that when the dealer places his name and address sticker on it, Adesco's address and telephone numbers will be covered.

Circle 386 on Rapid Reply

National Cabinet Lock Expands Stock Locks

Stock Locks line from National Cabinet Lock expands with a new diamond back drawer lock.

This diamond lock is different from an ordinary pin tumbler lock because if rekeying is required, the cylinder is removed from lock housing without having to take the lock off from the drawer. Keying is compatible with other National Lock pin tumbler locks.

The new locks are available in Satin Brass and Dull Chrome (brushed) finishes.



Circle 387 on Rapid Reply

Abus Lock Company Is Now Coast To Coast

Samuel S. Crissman, president of Abus Lock Company, Woburn, Massachusetts, has announced a merger with Abus Security Products, Huntington Beach, California. This meshing of two significant Abus padlock marketing organizations, under the name Abus Lock Company took effect June 1, 1988.

According to Arthur Steffenberg, Vice President Sales of Abus Lock Company, the west coast field staff will remain intact.

Abus customers should benefit greatly with considerable increased inventories, rapid response toll free ordering, and same day shipments.

Circle 385 on Rapid Reply

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West Coast Chain Introduces Mini-Bak™ Key Return

West Coast Chain is introducing the new Mini-Bak key return. The key return concept is not a new one to industry and safety professionals, however, everyone can enjoy the same benefits with the new Mini-Bak.

Equipped with a miniaturized patented key reel system, the Mini-Bak provides a full two foot extension from purse, bag, briefcase or clothing to lock. No more fumbling for lost keys. No more dropped keys or emergency phone calls from a locked out family.



Circle 388 on Rapid Reply



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Hewi Inc.'s New Hardware Brochure

Hewi, Inc. is offering a new hardware brochure with an award winning cover photo and 16 pages illustrating Hewi door hardware, cabinet pulls, hooks, shelf brackets, railings and cloakroom and entrance furnishings.

Featured are the passage latch and deadbolt recently added to Hewi's complete line of architectural hardware.



Circle 391 on Rapid Reply

National Alarm Computer Center Is Expanding

During the middle of July, National Alarm Computer Center, Inc., will be introducing two new Data General MV15000 computers, thereby upgrading their monitoring facility. When installed, they will be two of the largest computers used to monitor in the country.

This is not a simple plug in procedure. They have spent over \$350,000 and countless hours on this conversion in order to provide their dealers state-of-the-art service.

Circle 389 on Rapid Reply

ESP Introduces Locking Security Pouches

ESP Corporation has added three new items to its product line with the introduction of Zippered Locksmith Security Pouches.

The new RSP Series Locking Security Pouches are made of durable "nylotop," a strong material with silky-smooth finish in dark blue. The pouches feature the Arcolock-7 lock and have a framed window nameplate for ease of identification. There are three sizes available: 7 x 10, 9 x 12, and 12 x 16.

These bags are suited for the banking industry, companies transferring payroll or any confidential information between buildings, or for gun storage.

Circle 390 on Rapid Reply

Electric Gate Lock Service

"The electro-mechanical switch locks used to operate electrical roll-up gates can be a major stumbling block to a locksmith unfamiliar with their operation."

by Robert Sieveking

Many of the large shopping malls we find popping up across the country are using key-operated electrical roll-up curtains or gates to secure the stores after hours. These electro-mechanical switch locks can be a major stumbling block to a locksmith unfamiliar with their operation. The safe and proper methods used to service these locks is the subject of this article. Thus you will have a profitable new skill to add to your arsenal.

The first concern of any service operation is safety. Because this job involves opening an electrical control panel, always secure the primary power source before opening the switch box.

Though some of the control panels are operated on a low voltage power source (24 volts), I have also seen line voltage present at the switch lock. By asking the manager where the breaker panel is located, and if it is possible to turn off the power to the door, you will save yourself from the danger of accidental electrical shock or the embarrassment of burning the tip off your screwdriver if a stray wire should touch ground.

Safety first, shut off the power. In this case the manager knew exactly where to shut off the door operator. The index on the breaker panel door indicated that the door operator was on a separate circuit. After turning off

the circuit breaker, we went back to the door, to make sure the power was off. Where safety is concerned, never assume that the power is off. Check it out. If the breaker panel was mislabeled or you read it wrong, you should find out before you open the box. Surprises aren't fun at 120 volts. A quick check of the switch, told us that the power was off to the motor. Do not assume that there is no voltage in the switch control. If the switch lock uses a low voltage transformer, it may not be on the same circuit as the door operator. Always treat the switch as if it were live, or had voltage present. Don't take chances.

After being reasonably sure that all

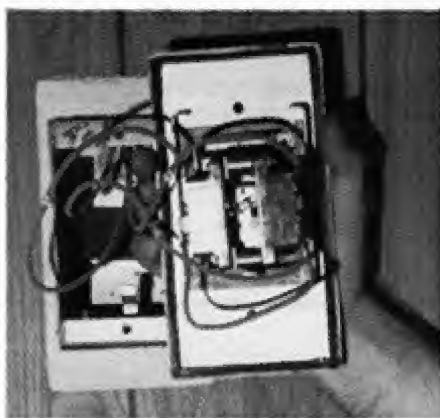


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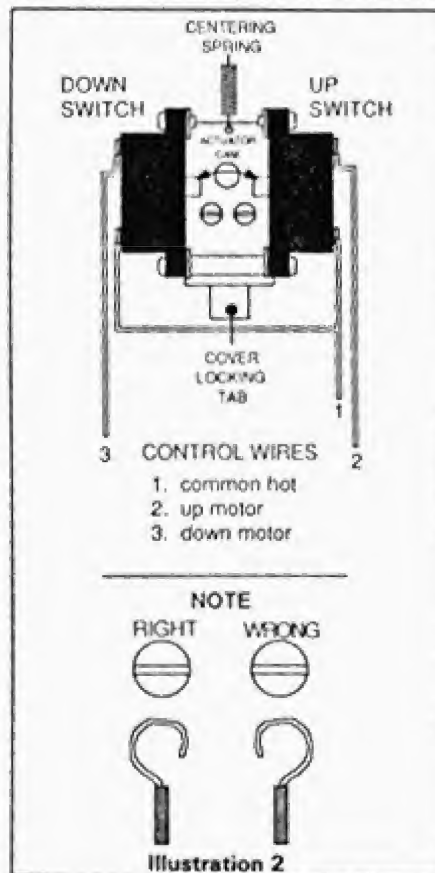
power was secured to the box, I proceeded to remove the switch lock. Most of these switch panels are secured to an electrical box by security screws and a mechanism that requires the use of the key to remove the panel. After removing the security screws, the box cover is still not free. By turning the key left or right while pulling out on the cover, the box cover, lock and switch assembly can be removed. In photograph one you can see the locking tab inside the electrical box that prevents the switch cover from being removed without a key.

Once removed, the wire numbers or color code should be marked on the



1. Locking tab in the electrical box, preventing switch cover removal.

inside of the switch cover. This will identify the locations for the control wires and insure that after the lock has been recombined, the wires will be



replaced on the same switch terminals. There are three wires on most of these controls. (See illustration 2.) Wire number one is the hot wire. Wires two and three determine the direction of the operating motor. Remove these wires one at a time and *tape the ends* before replacing them in the electrical box. Again, be careful—treat the wires as if they were live.

Once removed, it is a simple matter of rekeying the cylinder. Remove the actuator, centering spring and the actuator cam attachment screws. The actuator cam can then be removed to allow the lock plug to be followed out of the cylinder for rekeying. There is no need to remove the switches or lock cylinder from the cover plate. Reassemble the switch assembly and actuator cam exactly the same way it came apart. I have only seen about four different types of gate controls that use a mortise cylinder like the one shown. They are all basically the same configuration.

When replacing the wires on the switch screws, always wrap the wire around the screw in a clockwise direction as shown in illustration two. This will cause the wire to tighten around the screw as the screw is tightened. If the wire is wrapped around the screw in



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the wrong direction, it will be forced out from under the edge of the screw head and come loose. This is especially important when stranded wires are used in the control wiring.

After the cover plate has been secured to the electrical box, restore power to the door operator and check the door for proper operation.

Most of the roll-up gates also have cylinder locks mounted on both sides of the curtain that lock the gate down after it is lowered by the motor control. These are sometimes keyed the same as the electrical switch. Loosen the retain-

ing screw and remove the cylinders as you would any mortise cylinder. (See photograph 3.)

About six months ago I had an interesting problem with one of these roll-up gates. The call came in that the curtain locks were jammed and could not be unlocked to allow the motor operator to lift the gate. When I got there, I checked the locks to find that the locks worked fine but the locking rods were jammed in the extended position. Someone had tried to run the gate up without first unlocking the curtain locks. The lock rods were stuck and the gate under a real strain. Because of limit switches in the door operator, the gate could not be lowered to remove the strain and release the locking rods. After assessing the problem, I got my step ladder and climbed into the overhead to see if the door could be manually run down. By turning the motor

pulley by hand, I was able to lower the gate far enough to free the locking rods. (See photograph 4.)

Something else I noticed as I studied the mechanism, was that the motor drive pulley was a slip clutch arrangement. (See photograph 5.) If the door was jammed or locked down, and someone tried to run the gate up, the drive pulley slips to prevent serious damage to the gate or gear reduction unit. If this clutch had not released, the locking bolts would probably have been sheared off by the operator.

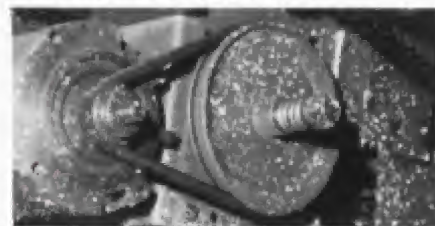
Electric gates, should be no problem to the locksmith. But limit your service to the locks. Always check to make sure the door is operating properly before you begin the job. Electrical troubleshooting of these units should be left to the electricians. Work safe, and don't take unnecessary chances with electrical controls. ■



3. Roll-up gate cylinder locks.



4. The motor pulley of a roll-up gate.



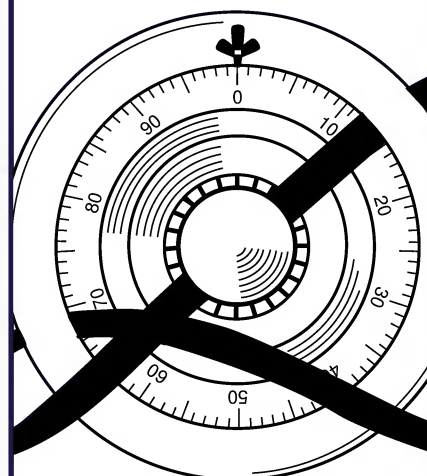
5. The motor drive pulley is slip clutch arrangement.



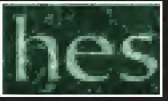
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padlock review



Padlock

Review

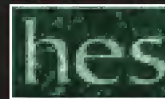
There are many padlocks available in today's market. Therefore, there is certainly a product available to fit any purpose and price range. By being aware of the range of padlocks offered to you, you can best help your customer choose the right product. Here is a good sampling of padlocks. Although there isn't space to show each lock made, this is a good overview. Feel free to circle the numbers of interesting products on the Rapid Reply card. You'll receive information from the manufacturer.

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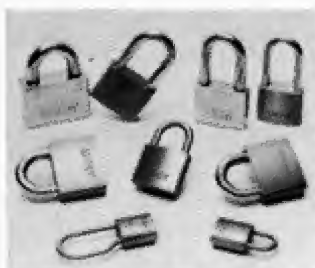
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Abloy Features Full Padlock Line

Abloy Security Locks offers a complete line of high security padlocks. The Abloy padlock line ranges from a light duty padlock with a 3/16" diameter shackle to a fully shrouded 9/16" diameter shackle that will withstand 20,000 lbs. shackle pull.

All Abloy padlocks can be keyed together and are available in a variety of restricted keyways. Most rekeyable models feature hardened steel housings and shackles.



Abus Plus 37 Rekeyable Padlock

Abus Lock Company, recently introduced the new Abus Plus 37. This new rekeyable "Plus Secure" disk cylinder padlock features seven locking disks which provide a mechanism that make possible over 250,000 key changes.

The locking action is carried out by a bolt pin which secures the cylinder with its whole length. The 37 Plus is available with 1" or 2" shackle clearance.



Almont Lock Co.'s 'Re-Key' Padlock

The Re-Key Padlock from Almont Lock Company is so named because it can be re-keyed quickly and easily. A simple tool retains all drivers and springs which permits plug removal with tumblers exposed for instant rekeying.

The Re-Key saves time and work because there's no need for drilling, riveting or grinding.

The key cannot be removed when the padlock is open. Two solid balls are forced into the sides of the shackle when locked. Seven keyways are available.



American Lock's Model 747

The model 747, part of American Lock Company's specialty, professional padlock assortment, provides maximum protection.

The solid steel padlock features a 7/16" alloy shackle that's protected from possible intruders by a tough steel shroud. Hardened steel anti-drill pins and a solid steel shield protect the lock's recessed 6-pin tumbler cylinder.

A heavy-duty padlock, Model 747 weighs a full two pounds and measures 2 1/2" wide.



CCL 500 Series Sesamee Padlocks

CCL's Sesamee padlocks are resettable combination padlocks. The 500 Series padlocks contain the same solid brass internal mechanisms as the 400 Series Sesamee Padlock. However, they feature a durable epoxy finished die cast case making them more price competitive.

The hardened steel shackles, available in 1" and 2 1/4" heights, are nickel plated for security and durability. Each padlock is shipped with an individual change pin which enables the user to set a personal combination.



Hampton Lock's Portable Vault

The Lok Box™ measuring 2 5/8" x 7 1/2", is now available from Hampton Lock Company. This patented box features a double security lock box. The upper padlock incorporates a modified shackle designed to go around door knobs, rods, etc. The inner compartment is covered with a sliding door including a 4 dial resettable combination lock.

There are numerous applications besides the obvious real estate market.



New Master Rekeyable Lock

Master's new pin-tumbler padlock, No. 25, introduces rekeyable locks with a two-inch-wide body, shackle diameter of 3/8", and horizontal shackle clearance of 1".

The shackle size and clearance make it ideal for securing vending machines, truck door gates, tool boxes and other industrial equipment.

No. 25's case-hardened, high-tech steel shackle is highly resistant to cutting and sawing. The rekeyable design allows changing cylinders in seconds to update security at will.

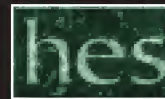
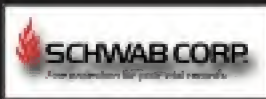


New Medeco Padlocks

The interchangeable core removable cylinder padlocks from Medeco are constructed of brass with 3/8" diameter shackles and clearances of 7/8", 1 1/8", 1 3/8" and 2 1/2" and are perfect for applications needing high security and serviceability.

Both padlocks use a UL Listed, high security core or cylinder and use toe and heel deadbolt locking action. These padlocks can be keyed different, alike or masterkeyed to specifications and pinned with Medeco's standard pin kit.





Noblit Provides Padlock Security

Noblit's padlock is specifically designed to give maximum protection in high risk areas: refineries, mining camps, vending machines, warehouses, etc.

Cast in a single piece of silicon bronze, this padlock withstood a force of 6 tons and retained its structural integrity. Featuring: 12.5mm diam. hardened 32 ton tensile steel shackle, 6-pin rekeyable cylinder, anti-drill plates to shield the pin tumbler action and a hardened steel key rotor to protect its base.



Circle 281 on Rapid Reply

Abloy Offers Maximum Security

Abloy Security Lock's model #3095, provides over 20,000 lbs. shackle pull strength. This maximum security padlock features a shrouded 9/16" diameter hardened steel shackle. When used with a high security hasp the lock is virtually impossible to compromise.

Like all Abloy locks, the 3095 uses rotating disc tumblers which provide over 360 million combinations. This lock is available in a variety of restricted keyways.



Circle 282 on Rapid Reply

Abus-Plus Key Cutting Adaptor

Abus has developed a key cutting adaptor which allows key cutting of Abus-Plus keys on most standard key cutting machines. This adaptor is attractively priced and easy to use. One rekeying kit will service both locks.

An upgraded hasp, No. 130/180 is available to be used with the Granite Locks.

Also, the Abus-Plus Cylinder is integrated into Granite, bike and motorcycle locks which are also hardened.



Circle 283 on Rapid Reply

American Lock's Model 2000

Developed specifically for high-security applications, American Lock Company's Model 2000 padlock displays a unique design.

Constructed from a one-piece, solid case, the padlock features a unique shackleless locking system that resists hacksaws, bolt cutters, pry bars and hammers. Nine hardened steel pins surround the back of the padlock and add to its strength.

The lock has a recessed, 6-pin tumbler cylinder, which is machined from solid brass.



Circle 284 on Rapid Reply

CCL 400 Series Sesamee Padlocks

The 400 Series padlocks from CCL Security Padlocks contain all solid brass internal working mechanisms and a brass case to insure smooth operation under most weather conditions.

The hardened steel shackles, available in 1" and 2 1/4" heights, are nickel plated for security and durability purposes. Each padlock is shipped with an individual change pin which enables the user to set a personal combination.

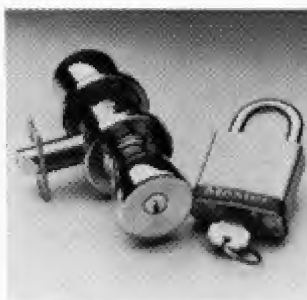


Circle 285 on Rapid Reply

Master Expands System-29 Line

System-29 from Master Lock, designed to allow opening padlocks and doorlocks with the same key, has been expanded with a new adaptor for Dexter.

To key a System-29 padlock to a Dexter door lock, simply fit the Dexter cylinder with Master's new "D" adaptor, insert the assembly into the padlock body, and secure with a hex wrench. Other brands of doorlock cylinders adapt in a similar manner.

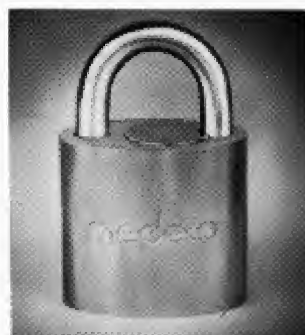


Circle 286 on Rapid Reply

Medeco's High Security Padlock

The High Security Padlock from Medeco is ideal for industrial safekeeping, perimeter gates, cargo vehicles, vending security, gun control and remote station security. Made of solid bronze with hardened steel inserts and a hardened steel shackle—3/8", 7/16" and 1/2" diameters—the padlock is top loaded with the Medeco 6 pin patented, pick resistant, drill resistant high security cylinder.

Toe and heel dust cover and chain are additional features.

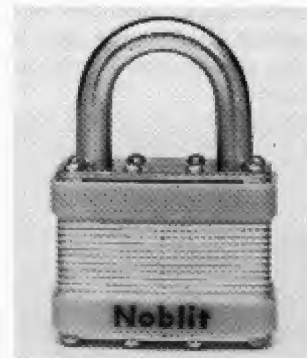


Circle 287 on Rapid Reply

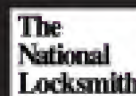
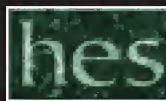
Noblit's New Series Padlock

Noblit's extensive line of padlock offers a heavy, zinc-plated steel laminated series featuring: hardened, chrome-plated steel shackles, single or double locking shackles (heel & toe), the most popular U.S.A. keyways and solid brass pin tumblers.

In addition to the solid riveted construction, single or double protective vinyl bumpers are a standard feature. The long shackled version also offers a protective vinyl sleeve.



Circle 288 on Rapid Reply



Repairing Hurd Padlocks

"There are plenty of these hefty rascals still in use and service is often necessary. If a key or code is not available, the lock must be picked open before service."



Send your lock and key questions to Jack Roberts, The National Locksmith, 698 Bonded Parkway, Streamwood, IL 60107.

by Jack Roberts

Most of us, when we think of Hurd, automatically think of Ford. But the Hurd Lock Co. also makes many types of locks including a line of padlocks. Although Hurd discontinued the manufacture of model 716 series padlocks (see photograph 1) in the late 1970's, there are still plenty of these hefty rascals in use and service is often necessary.



1. Hurd's model 716 series padlock.

These locks were produced KD, KA, and KDM and although the same body is no longer available, the series 330 padlock can be ordered keyed to the same code as an existing model 716. If a key or code is not available the lock must be picked open before service can be effected.

With the shackle open, look into the shackle hole and you will see the retainer pin at the bottom. (See photograph 2.) An "L" hook type of tool, (see photograph three) is necessary to depress the retainer since it must be pushed into the cylinder cavity. When the retainer is fully depressed the cylinder can be extracted from the lock body.

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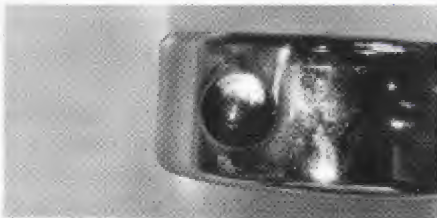
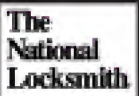
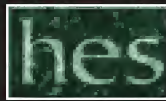
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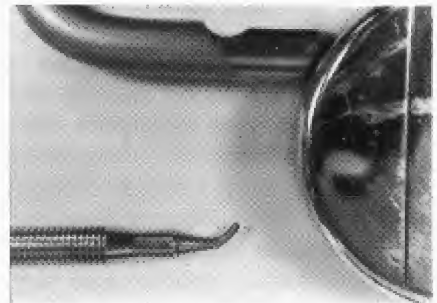
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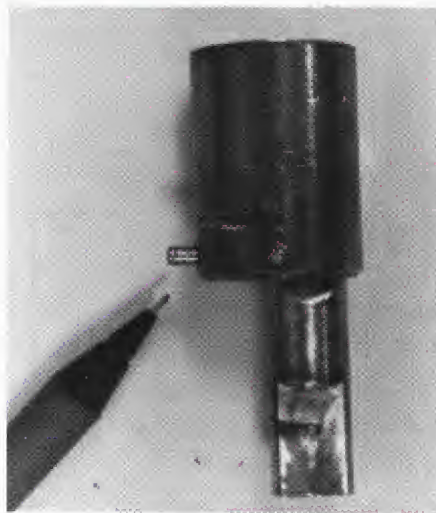
2. Retainer pin visible at the bottom of the shackle hole.



3. "L" hook type tool needed to depress the retainer.

either for producing lost keys or for changing a combination.

If the code number is available, is prefixed by "P" and contains the numbers 1-3-5-7, there is a good chance that it is a direct read code and the key can be cut accordingly using the following spaces and depths: Shoulder to first cut = .142. Cut to cut = .125. Depths: 1 = .230; 3 = .210; 5 = .180; 7 =



4. Cylinder retainer pin.



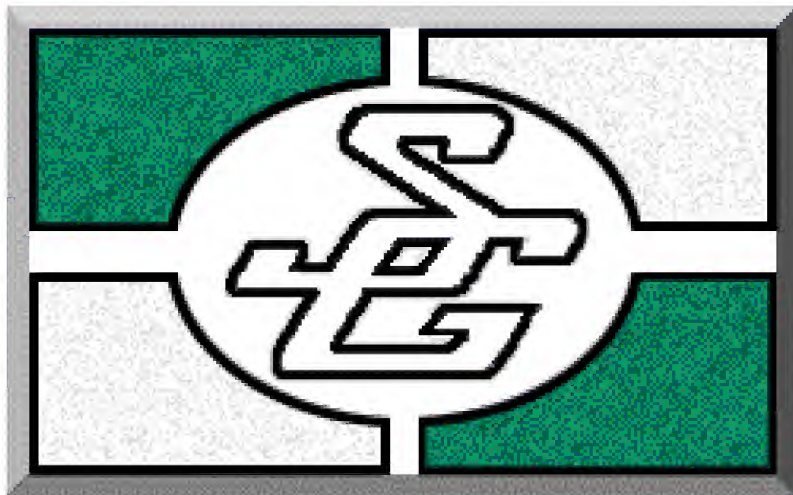
5. Stop pin shown limits plug retainer.

.150. (Before one of you sharp-eyed readers takes me to task on the difference in biting drops, this is the way my records show. In fact, I find .509 mm for .020; and .763 mm for .030.) Use the Ilico 1125, (Curtis H6) blank, and cut from bow to tip. If the first go doesn't turn the plug, try reversing the code.

Removal of the plug can be accomplished by either of two methods. Carefully remove the spring retainer caps and remove the springs and pins from each chamber, or use a hollow follower which will fit over the cam extension and into the plug cavity.

To remove the plug, the retainer must be removed from the slot at the rear of the cylinder. The retainer is staked in place and the staking can be removed by filing. Use a sharp pointed tool to lift the retainer out of the slot in the cylinder.

The cylinder retainer pin (*see photograph 4*), must be lifted clear of the cam extension. This can be done with the tip of a screwdriver inserted in the cut-out area of the plug extension. There is a stop pin (*see photograph 5*) which limits the rotation of the plug and it must also be punched clear of the cam extension. There isn't a lot of room to work, but a small pin punch will contact the



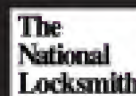
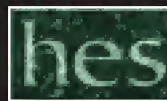
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end of the stop pin and it can be punched clear. Here, also, you must work in the cut-out area of the extension.

With the plug removed, carefully place each pin in a pin tray. Watch for master pins! The pin chambers in the cylinder should be checked for master pins and, if found, they should also be placed properly in the pin tray. When all of the pins have been laid out they can be measured and a key can be manufactured by filing or by the use of a code machine. Master padlock pins can be used in these locks (with some minor adjustments) or the pins from an old Ford (Hurd) kit will function quite well.

The complete assembly consists of the body, shackle, cylinder and plug, (see photograph 6) and two locking balls. Hurd must have a unique manner



6. Complete Hurd assembly.

of keeping the locking balls in place since we have not been successful in removing them. But then, there is no need for that and one sure doesn't have to worry about crawling around on the floor trying to find a ball that has rolled to the far corner of the shop.

Reassembly is rather straightforward. After making a key or repinning the plug, insert the top pins and springs, insert the plug in the cylinder, tap the stop pin in place, replace and restake the plug retainer and tap the cylinder retainer pin down flush with the surface of the cylinder. Insert the cylinder into the body of the lock, turn the plug counterclockwise, which forces the cylinder retainer pin into position, and the lock is ready for service again.

The original Series 716 has the same appearance as the lock described here but the cylinder enters the body from the side, does not have locking balls, uses the "A" series code and is disassembled in an entirely different manner.

Assistance with any Hurd lock or code can be obtained from the Hurd Lock Co., at 603 Bohannon Ave., Greeneville, TN 37743. ■

Pinning The Corbin Core

"The first step, of course, in decoding a core is to have access to it, and Cobin and Russwin do not make this part very easy. After that, though, it's easy."



by Don O'Shall

This month Don O'Shall follows up on his article about decoding the Corbin core from the July 1988 issue of The National Locksmith.

In discussing my article on Corbin core removal without the control (core) key with other locksmiths, I was surprised to learn that most of them were unfamiliar with how the Corbin core is

pinned, and even more unfamiliar with how it would be decoded for control and master keys when these keys were not available.

The first step in decoding a core, of course, is to have access to it, and Corbin and Russwin do not make this part very easy. The July article dealt with the mechanics of core removal. But once the tough part of the job is done and you have a core in your hand, the actual decoding process is not very difficult.

Since you will need to measure the pins, careful disassembly of the core is the absolute rule. These cores use a brass slide on the top of the core to act

as the spring retainer. My preference in disassembling these is to use a scratch awl or scribe to start the slide up and loosen it somewhat, but not enough to remove it.

I then remove the C-clip on the back of the core that acts as plug retainer and shim the core from the rear (at the operating shearline, since there is no access to the control shearline from the rear). Using a plug follower, I remove the plug, and carefully set the pins out in a pin tray designed for such a purpose. (Yes, I know a piece of corrugated cardboard does equally well, and I have used it from time to time, but I prefer more professional looking



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tools.)

I then slowly lift off the already loosened brass slide from the top of the core, relaxing the springs with my fingers as I do so. Then the springs are removed, and the process of carefully dumping each chamber's contents, keeping them in order, as they join the bottom and master pins already in the grooved pin tray.

The next part of the job requires a measuring device, such as a micrometer or caliper. (The other day someone asked me if I didn't agree that the use of a micrometer today was "unprofessional" since it can't do everything a caliper can. I replied only that my Oldsmobile can't do everything a Porsche can, either, but it does what I want it to do.)

After measuring the pins, I carefully compare them with the chart from my Interchangeable Core book, making sure to use the proper page since there are different measurements for Corbin X (clover-shaped key bow), Corbin Z (standard Corbin bow), and System 70.

A sample of this is shown in the following chart. The cores I am measuring for this article are on the Corbin 77 keyway, which is an "X-bow" key.

BP	.211	.169	.185	.225	.210	.185
MP	.028	.028	.027	.028	.028	.028
CP		.190	.161	.107	.107	
DR	.065	.135	.147	.163	.177	.063

Comparing these depths with the chart from the book for X-bow keys, I find that these most closely translate to:

BP	4	1	2	5	4	2
MP	2	2	2	2	2	2
CP		2	0	-4	-4	
DR	0	5	4	3	2	0

The next step is to determine the possible cuts for the master and change keys. One set of possibilities is readily apparent—those corresponding to the bottom pins. The other is the sum of the bottom pin plus master pin.

Thus we end up with the possibilities:

4	1	2	5	4	2
6	3	4	7	6	4

From this alone there is no way to properly identify the master key cuts and change key cuts, since the possibilities are:

412542	412742	414542	414742
412544	412744	414544	414744
412562	412762	414562	414762
412564	412764	414564	414764

432542	432742	434542	434742
432544	432744	434544	434744
432562	432762	434562	434762
432564	432764	434564	434764

612542	612742	614542	614742
612544	612744	614544	614744
612562	612762	614562	614762
612564	612764	614564	614764

632542	632742	634542	634742
632544	632744	634544	634744
632562	632762	634562	634762
632564	632764	634564	634764

This is a total of 64 combinations that are possible. Right about now some of you are probably thinking about the tendency that Corbin has to use deep cuts for its master keys, but remember, we don't know that this is a factory system or that, even if it is, it followed the trend.

But for now, all we need to worry about are the deepest of the two possible cuts for each position, since it is this that is used to determine the control pin needed in the actual pinning process.

We want to make the control key



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first, since we can use it to remove other cores for re-keying or decoding.

In our previous example, the deepest cuts would be 634764. The first and last positions use no control pins since the control lug does not extend to these positions. This means that the control key *must* have the same cuts as the master key for those two positions. In this case this would be either a four or a six for the first position, and either a two or a four for the last.

That leaves the middle four cuts to determine, and we can do this with absolute certainty. The deepest cut (between the change key and master key) for the second position is a three.

The control pin for that position is a two (or plus two, if you prefer). Adding these we get a total of five, which is the control cut for the second position. Easy, right?

Let's try the third position. The deepest of the two cuts is a 4 and the control pin is a zero. Since four plus zero makes four, the control key cut for that position is a four!

And now the fourth position. The deepest cut is a 7 and the control pin is a minus four. Adding seven plus a minus four is the same as subtracting four from seven. This gives us a three for the

control pin for that position.

The fifth chamber has us adding a minus four again, this time to a 6. Six minus four equals two, which is the control cut for that position.

We now have four possible control keys:

454322 454324 654322 654324

Since I am as much prone to assumption as the next person (although I try to resist it), my first inclination was to cut a key to the deepest of these patterns: 654324. This is based on a recognized tendency among Corbin products to prefer a deep-cut master key.

In point of fact, it allowed me to remove roughly a third of the cores in the building. I then cut the other three possible control keys and determined the proper control key cuts.

But rather than tell you right away what it was, I will give you a chance to check out what you think you might have learned from all of the above.

Here are the decoded pins for one of the cores that the original control (core) key would not open. From these measurements you should be able to determine the correct control key, and also, by comparing this information with the above pins, the correct master

key as well, which is useful in disassembling the remaining cores.

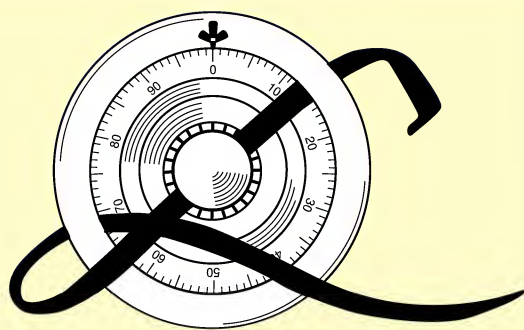
BP	2	3	2	5	2	2
MP	4	2	4	2	2	4
CP		0	-2	-4	-2	
DR	0	5	4	3	2	0

Before reading any further, give the calculations a try. I will wait right here while you do.

Ready? Well, that didn't take you very long at all! Did you correctly determine that the control key was indeed 654322, and that the master key was 632742? If not, go back and trace your error. The practice now may save you time later on a job like this.

Servicing interchangeable core locks and removable core locks is a skill that was once outside the realm of the mainstream locksmith, but that is definitely no longer the case. Even locksmiths in remote locations are beginning to see the opportunities opening for them among local institutions, as well as from the conversion of large institutions to other purposes, such as schools to become apartment buildings or condos.

Continued on page 83



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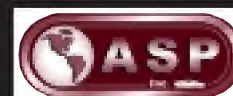
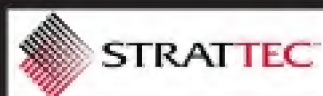
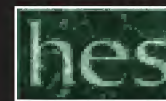


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Advice To Novice Manipulators

"The most important tool in the kit of the slick manipulator is confidence. It enables a craftsman to pass through any problems with apparent ease."

by Lee Anderson

Too often the optimistic novice, perhaps after some reading or time in class, and with a little practice on cutaway locks, starts down the road that should lead to consistently successful and profitable manipulations, only to encounter in the field a seemingly endless parade of obstacles: sticky dials, loose dial rings and spline keys, mushy contact points, inconsistent readings, wheels that shadow or block one another, poor light, legs gone to sleep beneath aching knees, and the increasingly hideous braying of some jackjaw demanding once again a liberal dose of nitro.

These problems are very real. They are also essentially trivial, and the experienced manipulator seems to take them all in stride. Difficulties with dials and rings are solved more or less routinely. The reasons for inconsistent readings are discovered promptly and corrective action is taken and even the loudmouth in the crowd usually settles down after someone laughs at his joke as if it were outrageously original.

But my concern here is for the beginning manipulator, and whether he or she is relatively new to the business or a master locksmith with twenty years of experience, any of these problems when encountered in the field is serious

enough to lead to an unsuccessful attempt.

Perhaps it is good now to remember that we are people engaged in a business. As such, time wasted on the job is the bane of us all: employers, employees, and harried dispatchers alike. If too much time gets wasted too often, the novice's initial enthusiasm begins to fade. Eventually, manipulation is seen as a good idea that didn't pan out, and drilling becomes by default the standard opening technique. This bleak scenario might make good business sense, but it's also an unfortunate situation which can be avoided.



Installation Tools

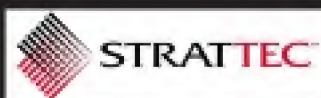
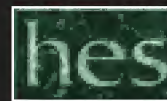
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Let's assume for a moment that you are a beginner who wants to steer clear of this pitfall. What should you do? The obvious would be to read everything you can on manipulation in books and magazines and, if possible, take a class. As you think about the things you read and hear, you should come to realize, without envy, that no single book or class will impart to you the ability to work as efficiently as the "old hand." At this stage in your development, it is best to concentrate on your accomplishments alone. Your investments of thoughtfulness and time in this process will pay big dividends later.

The most important tool in the kit of the slick manipulator whose skills you admire is confidence. Confidence is responsible for the often misleading appearance of patience; it's what enables a true craftsman in any line of work to glide across potentially rough patches with apparent ease. Confidence builds slowly on a series of small successes and is easily damaged by demanding too much too soon. Anyone who has stubbornly persisted in a failed manipulation attempt—against all good judgement, ignoring other work—knows exactly what I mean. I admire

determination, but sometimes the price is too high.

You can avoid this all-or-nothing approach by opening your first safes off the job. If possible, practice after hours on the show room floor. Open the safes of friends and relatives. The first real lockout that I seriously worked on using manipulation techniques was in the second floor office of a friend who owned a small corner grocery. The safe had come with the building years before and I'm quite sure that I was the only person who cared whether or not it ever opened.

Customers who brings small safes into a shop often won't mind leaving them for a few days. Use the time to run a graph of the lock. Graphs are terrific educational tools and they are helpful in passing information to others, but on a jobsite they are awkward and time consuming.

Practice as often as you can in these low pressure situations, and practice on safes. I will admit to a certain theoretical tolerance of mounted or cutaway locks. They have a place at times. But in the study of manipulation there is absolutely no substitute for the benefits of the small successes you will achieve by sitting in front of a locked

safe. At first you will question almost everything, as you should. How can I take good readings from this dial or that one? Should I try to eyeball the center of the opening index or would I get more accurate results by using the edges. What is the best way to hold the dial when I take readings? Can I somehow eliminate the glare from these lights? Is the background noise really interfering with the work, or is it just a distraction? How can I sit so that I'm comfortable?

The answers to most of these questions will be slightly different for everybody. And that's the idea. You are coming up with the little answers that add up to the big questions, "What do I do now?" You are learning how you work best. Happy dialing! ■

**For July 1988
Issue
Code Correction
See page 66.**

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Management For More Business

"How you respond to the changes factors in the business environment will have a profound impact on your business success for years to come."

by Sean DeForrest

This is part III in a series on managing your business for more profit. Parts I and II were in the June and July issues of The National Locksmith. This month the emphasis will be on sustaining a competitive edge through strategic marketing.

Previously, we have observed the many forces of change that are affecting those locksmiths who have chosen to expand their business. One of the forces of change which will affect all locksmiths, regardless of size, will be the marketing process. How locksmiths sell products is being dramatically shaped by a new consumer movement which expects competitively priced products along with good service values. How locksmiths respond to this new environment will have a profound impact on their business success for years to come.

All locksmiths, either by design or by default, implement marketing plans which direct how they serve their customers. A select group of locksmiths will engage in what is called "strategic market planning." A strategic market plan asks the business owner such questions as: "What business are we in?", "What customers do we want?", and "How can we sell them?" Simply stated, strategic marketing is the action plan and guidelines on how a business meets its long and short term goals and objectives.

The biggest force of change affecting a locksmith's strategic marketing plan is the new consumer environment facing much of the western world. The United States, Western Europe, and many parts of Asia have become a buyers market, where excess supply is driving the price of commodity products ever downward. This trend has had a significant and growing effect on the residential lock segment and will eventually affect all segments of the security industry, including commercial products. Some locksmiths will attempt to match pricing on these commodity



A well designed locksmith shop.

products and, depending on the "value perception" they create for the consumer, will be moderately successful. However, the two most important marketing strategies a locksmith must use if he is to ensure his success are to identify "market niches" and to create "value added services."

A "market niche" exists when a group of customers have a specific need or want that can best be fulfilled by your product or service. Many times "niches" already exist and are just waiting for the right business to come along and serve them. However, more often the niche must be created by the businessman and then demonstrated (or sold) to a consumer. For example, a niche that is waiting to be served would include the duplicating of keys and general service work of luxury foreign automobiles. A niche to be "sold" might include providing a total security system to a commercial business who at first only wanted new deadbolts installed.

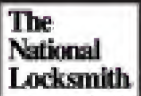
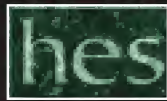
For a niche to be successful, the market channel (in this case, the locksmith industry) must either have a better product or service than competing channels (home centers, hardware stores, etc.) or be such a small niche that other competing channels would not bother to address it.

The second market strategy which locksmiths must use is the concept of "value added services." Value added services are closely related to the idea of market niches. Value added services are those services a business can sell that are unique to his business and thus can give him a sustainable edge over his

competition. Value added services are usually wrapped around commodity products and sold as a package to the customer. A locksmith who provides 24-hour emergency service to a commercial account and at the same time services all the commercial account's security needs (safe work, automotive, keys, closers, etc.) is providing a total service package that the customer could not obtain otherwise. The locksmith has just provided a "value added service." Value added services are most effective when they are created to service a market "niche" that the business owner has recognized.

These two marketing strategies: identifying market niches and creating value added services, will form the solid foundation for the locksmith industry's future success. The structure that surrounds these strategies is the many detailed decisions the locksmith must make regarding sale policies, pricing programs, product offering, service hours, etc. that make up the actual market plan. Regardless of your business size, one or both of these strategies will ensure your business success. Smaller locksmith operations will rely heavily on identifying small niches where they can comfortably and profitably survive. More aggressive locksmiths, willing to take risks, will expand into many niches and experiment with several value added services to find a winning combination. For those who successfully adopt and implement these strategies, the locksmith industry will remain a profitable industry for years to come.

We have now addressed a wide range of forces that are changing the locksmith industry. To successfully meet these challenges, a locksmith must have information and educational programs readily available to him. In part IV, in conclusion, we will explore the various educational opportunities available to the locksmith and take a critical look at how the security industry is addressing education. ■



Keying Fort's Tubular Padlock

"The first step to making a key is proper preparation of the blank. Use a flat file to clean the bottom of the key blank. Don't bevel the key..."



by Steve Spiwak

The other day I was called upon to make a key for a Fort tubular style padlock. (See photograph 1.) The physical properties of this lock are very important. Upon close inspection of the face of this lock, it is important to notice the absence of a cross notch in the core. (See photograph 2.) When a key blank is inserted into this style of

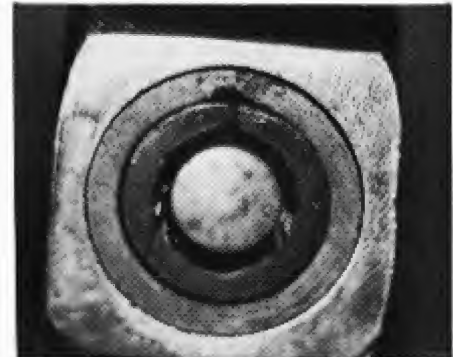
tubular keyway, it simply spins freely.

The question remains as to how to create a situation so that torque can be applied to the cylinder to bind the pins

to obtain marks which is the most crucial factor in successful key impressioning. If the lock contained the alternative keyway featured by Fort Lock



1. Bottom view of Fort tubular padlock.



2. Close-up showing absence of cross notch in the core.



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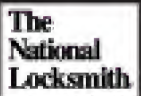
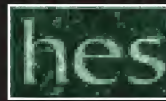


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Company this additional step would not be necessary. This is because the other keyway features a rounded notch in the outer diameter of the keyway opposite the ball bearing. (See photograph 3.) Therefore using a key blank that has an extrusion would allow torque to be applied without any degree of difficulty.

Unfortunately, this is not the lock that required a key. Since this lock does not have a cross notch, we have to create a condition that will exert torque on the cylinder plug. In order to devise the proper method for creating torque in this situation we have to define the problem. When the proper key is used, which part receives the pressure to turn the bushing? Is it the ball bearing or the pins themselves? When pressure is applied to the pins and ball bearing, will the pins or the ball bearing be used to create torque? In this case, either method can be used.

The first step to making a key is the proper preparation of the key blank. The first method is to use a flat file to clean the bottom of the key blank. Be careful not to bevel the key blank, while leaving as smooth a finish as possible.



3. Fort key blank without ball bearing.

The second method in preparing the key blank is to cut the shallowest depth in each space. Note: Fort Lock's #0 = Chicago Lock's #1. This method can also use the pins to create the necessary torque.

The second step is to create torque. The first method for creating torque applies when dealing with a key blank using the first preparation method described above. The ball bearing must be utilized to create torque. The necessary gap can be found between the stationary and movable part of the cylinder in line with the ball bearing. Insert a pick into this gap to push the

ball bearing into the hole of the key blank. This will make use of the ball bearing to create torque.

The second method for creating torque is to be used when the key blank has been prepared using the second key blank preparation method. The pins can now be used to create torque. Be careful to limit the amount of movement and torque of the key blank. Following this guideline will keep false marks and key blank slippage to a minimum. Note: If a deeper cut can be immediately be determined, then less care is needed for the key blank movement. It is important to realize that methods 1 and 2 can be combined for even better results.

The final consideration involves the process of producing the actual cuts on the key. This is one of the few types of locks that I impression where I prefer using tubular key/code machine over handmade. The reason is that this type of key machine will produce cuts of the exact space as required. This is especially due to the fact that the cuts have flat bottoms which are much more difficult to obtain when filing on an angle by hand, no matter what type of file you are using.

Continued on page 83



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NLSA Celebrates 40th Anniversary

"The National Locksmith Suppliers Association has celebrated its 40th anniversary recently. Its annual convention held this year in Chicago was a success."

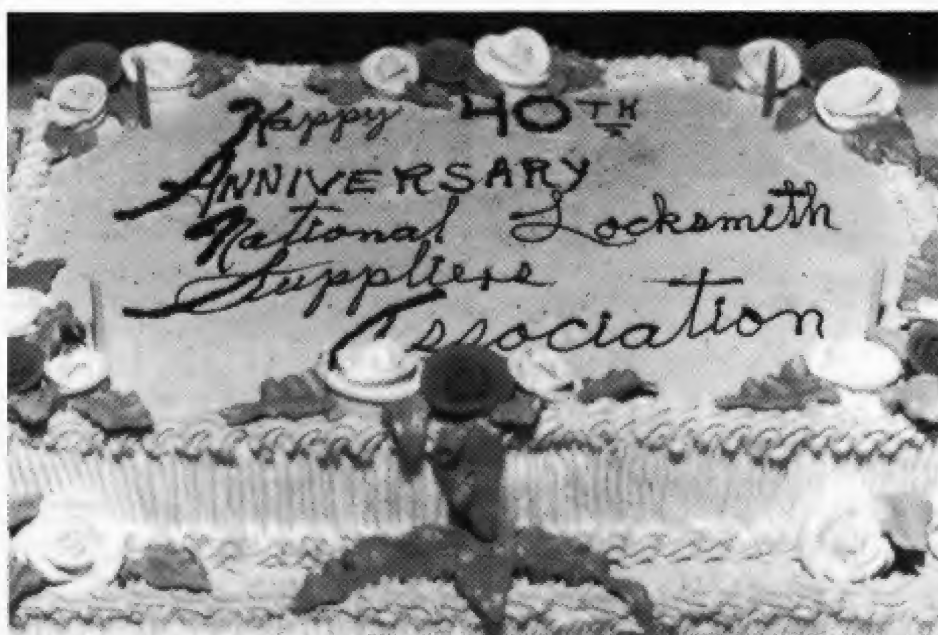
The National Locksmith Suppliers Association celebrated its 40th Anniversary during its Annual Conference, April 26 - May 1, 1988 in Chicago, Illinois at the Drake Hotel.

Over 300 distributors and manufacturers in the locksmith supply industry participated in this annual event. Business sessions and individual manufacturer/distributor conferences highlighted the five-day event.

A pre-conference seminar examined direct mail advertising and desktop publishing. During the conference, Bruce Merrifield of the Merrifield Consulting Group espoused the value of incentive compensation, programs while Viri Mullins of Armstrong's Lock & Supply conducted an in-depth financial seminar.

Distributors and manufacturers conducted individual conferences throughout the entire event. These annual appointments offer the opportunity to meet with senior management to discuss areas of mutual concern.

The highlight of the NLSA Annual Conference was the NLSA 40th Anniversary Celebration and Cabaret. NLSA members offered an exciting amateur show, showcasing a variety of



Cake presented to members during 40th anniversary celebration.

talents.

In other news, Howard Johnsen, President of Hans Johnsen Co., Dallas, Texas, was elected President of the National Locksmith Suppliers Association on April 28, 1988 at the NLSA Annual Conference in Chicago.

Elected to serve as Vice President was Leon Wolfley, President, Island

Pacific Distributors, Honolulu, Hawaii. Alex Ebrahimzadeh, President, Fried Brothers, Philadelphia, Pennsylvania was elected Secretary-Treasurer.

Sean DeForrest, President of American Lock & Supply Inc., Anaheim, California was elected to the Board of Directors. ■



NLSA new officers: Alex Ebrahimzadeh, Howard Johnsen, and Leon Wolfley.



NLSA members arrange conference appointments.

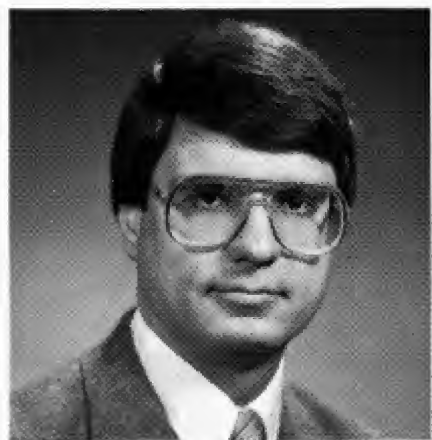
Business Briefs

Von Duprin's Haeck And Jacobs Win Patent Award

Paul Haeck, the mechanical product development manager, and Gary Jacobs, senior mechanical Project engineer at Von Duprin have received one of three "I-R Patents of the Year" Awards for 1987. The two will share the award and an accompanying cash prize as joint inventors of a lever handle door trim, US Patent Number 4,641,866.



Paul Haeck



Gary Jacobs

The pair's invention applies a relatively simple, inexpensive and proven idea to solve an industry wide problem and enhance the practicality of lever trim, while also increasing sales of their firm. The new design incorporates a movable link to provide automatic adjustment of the lever, compensating for droop caused by wear or vandalism.

American Shield Appoints Handschuh As NE Rep.

American Shield Corporation

announces the appointment of John Handschuh, AHC, CDC, as its representative in the northeast.

As an independent agency, Handschuh will now represent ASC's line of JPM 90 and F-90 (fire-rated) series and the 8000 series of panic exit devices. Additionally he carries mortise locks, wood doors, magnetic locks, door control systems, flat goods and frames.

Handschuh is past president of the Tri State Chapter of Doors & Hardware Institute and is certified as an architectural hardware consultant (AHC) and a certified door consultant (CDC).

Precision Products Appoints Miller Dir. of Sales & Mktg.

Michael Miller has been appointed as director of sales and marketing for Precision Products, Inc.

Prior to joining the Precision staff, Mike was the chief instructor with Lockmasters, Inc. and previously served as security specialist with the

U.S. Air Force.

His background also includes sales, system design and operations management of a nationally recognized security company.

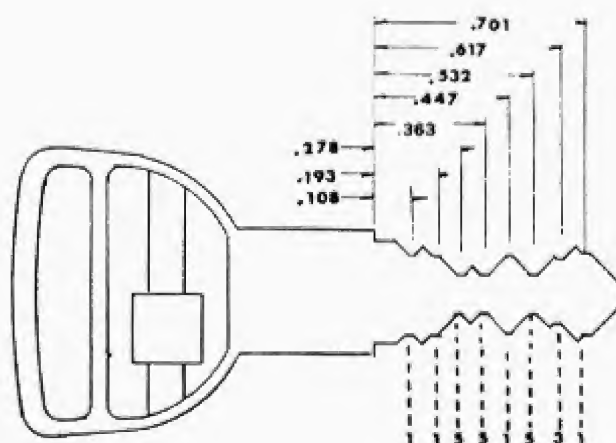
Tann Canada Transfers Remaud To Office

Tann Canada Limited has just announced the recent appointment of Joseph Remaud to it's head office in Milton, Ontario. Joe is a security consultant and professional locksmith with 25 years experience to his credit. His knowledge and expertise in the security industry along with his special interest in masterkeying and key control will be a great asset for Tann Canada.

He was transferred from Edmonton, Alberta, where he was managing the mid-west division, to take over the Zeiss Ikon Division. His new responsibilities will include reorganizing the operation, managing, research and development, security consulting, writing training manuals and giving Zeiss technical training seminars.

CORRECTION

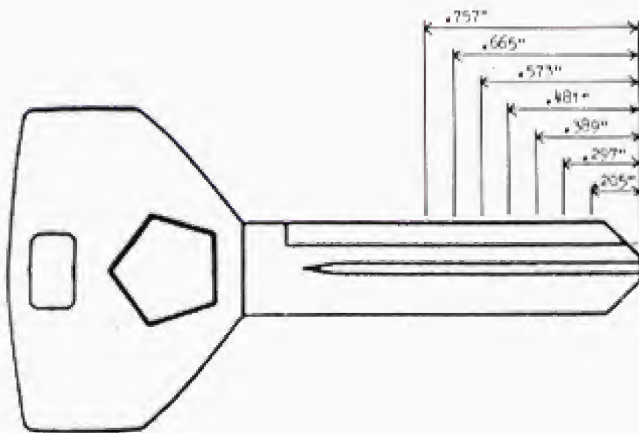
Shown below is the corrected spacing chart for the Honda Civic Codes which were printed in the July 1988 issue of The National Locksmith.



1989 Chrysler Codes

F0000-0659

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The new keys for 1989 Chrysler locks can be cut on a standard Curtis 15B-45 degree code cutter with a new cam-set and carriage, which will be available by late October/early November.

Depths:

- 1 - .258
- 2 - .233
- 3 - .208
- 4 - .183

Spacing from tip to bow:

- 1 - .205
- 2 - .297
- 3 - .389
- 4 - .481
- 5 - .573
- 6 - .665
- 7 - .757

Briggs & Stratton key blank # 594145 Master, 321566 Valet.

This depth and spacing provided by Chrysler will not be the same as 1200CM card. The card number has not been announced yet.

As of time of publishing it is yet undetermined if the code series will appear as F000-1394 or M000-1394 and V000-1394 (M-Master key bitting and V-Valet key bittings).



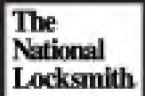
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locking solutions.**

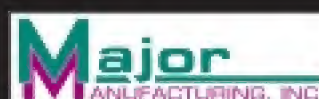
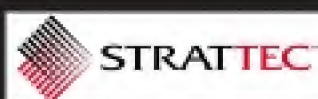
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Keyblanks:
 HPC/Silca
 Taylor
 Ilco

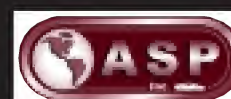
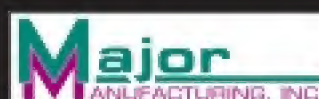
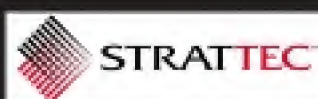
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13 1124242	1124244	63 3422433	3422431	13 1231233	1231231
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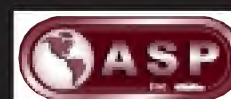
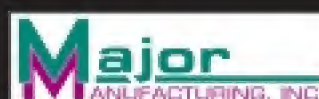
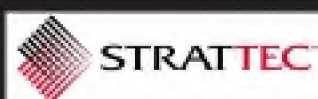
Keyblanks:
 HPC/Silca
 Taylor
 Ilco

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Keyblanks:
 HPC/Silca
 Taylor
 Ilco

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Keyblanks:
 HPC/Silca
 Taylor
 Ilco

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F0000-1394 CHRYSLER

Keyblanks:
HPC/Silca
Taylor
Ilco

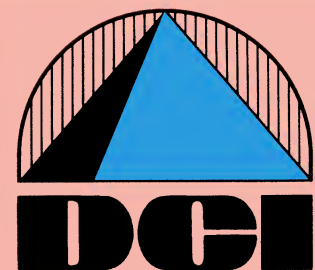
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0650								
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12	4243213	4243211	32	4233223	4233221	52	2332134	2332132
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19	3433211	3433213	39	3332121	3332123	59	3343231	3343233



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Helpful Questions and Answers

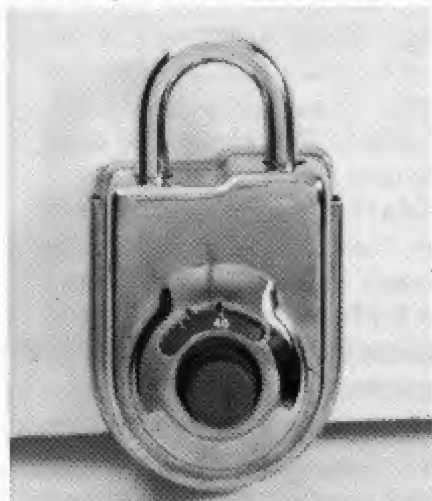
Written by *all* of the following authors: Robert Sieveking, Shirl Schamp, Don O'Shall, Jack Roberts, Dave McOmie, and Steve Spiwak.

Send your locksmith questions, along with a self-addressed stamped envelope to: Shop Talk, The National Locksmith, 698 Bonded Pkwy., Streamwood, IL 60107.

Q: I have run into some problems that I hope you can help with. I sent to Sargent & Greenleaf Co. concerning the 8077AB combination lock, requesting information on how to open this lock. They say it is not possible. I also requested information on the 831B key locking padlock, but got the same answer. I have over \$500 worth of these locks and the manufacturer says they can't be opened. It seems that when a company sells an item, you should be able to repair it. It sounds as if they are only interested in replacement.

A: The two locks that you describe in your letter are probably two of the most secure locking devices that you could find. They are designed specifically to resist most methods of attack.

The 8077AB is a manipulation resistant changeable combination padlock.



1. S&G 8077AB changeable combination padlock.

(See photograph 1.) The back cover must be removed to change the combination. A screw in the upper right hand corner secures the cover in place. The padlock must be in the opened position to turn the screw in, releasing the back cover. The cover is scored on the inside, so that it will break if it is pried. Once the cover is removed, there is a shutter over the change key hole that prevents peeking inside to read the combination.

The combination must be dialed to the change index before the change key shutter can be opened. The special chrome finish on this lock is specifically designed to make any opening attempts immediately visible. The only practical method of opening this padlock is to drill from the front to read the combination. The only drawback is that once the lock is drilled, it has no value. The lock will be destroyed in the process of opening. That is the manufacturer's intent.

The second lock you mention, is a really impressive piece of iron, or more accurately, stainless steel. I probably lead a pretty sheltered life, but the last time I saw an 831 S & G padlock, it was securing a rack of .50 cal. machine guns in the passageway of the patrol gunboat I was stationed on. Trying to pick that lock, never crossed my mind.

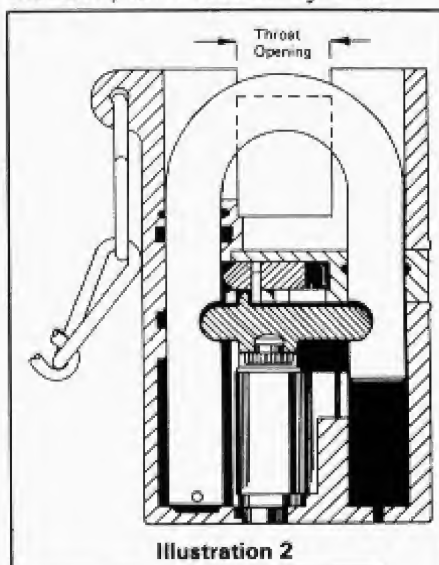


Illustration 2

The 831 uses a Medeco restricted keyway. (See illustration 2.) It is possible to destroy the cylinder to open the lock. Once the shackle is opened, a slide cover can be removed to access the rear of the lock cylinder for replacement. I am not sure where you could find a replacement cylinder, but it may use a standard knob cylinder.

A word of caution. If the locks you have in your possession have a U.S. stamped on them, they belong to Uncle Sam. Sam doesn't sell padlocks. Don't get involved with making keys for government locks, unless you know who you're dealing with, and then don't do it. They're an expendable item. 06

Q: What information can you give about the lock shown in illustration three? It is the first of its kind that I

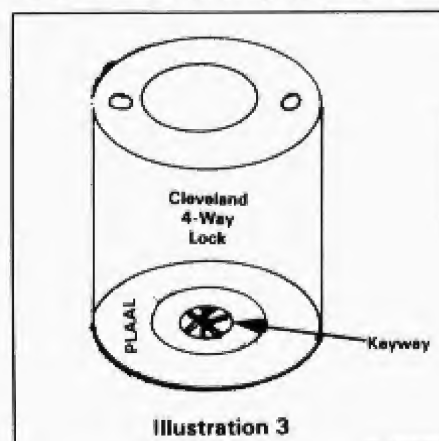


Illustration 3

have seen in 15 years of locksmithing. Are there blanks or are the keys pre-cut?

Harvey Kinkead
Ohio

A: Consider yourself lucky, Harv, to have found a 4-Way in just 15 years of locksmithing. Some people don't ever get to see one of these jewels. These locks were manufactured by the Cleveland 4-Way Co. of Cleveland, Ohio and were registered to the individual



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owner. Key blanks were not made available to locksmiths and keys could only be obtained by referring to the registered number.

Codes, such as the PLAAL shown on your lock were utilized in conjunction with the registration. Three different models were manufactured and some of these in different styles. You don't show the shackle design on your piece, but there were variations of the shape of the shackle. It would appear that your lock is an A-1 type, with four levers operating on all four sides of the keyway.

The A-2 and B-1 were 8 lever locks and the internal mechanism was somewhat different from the A-1. The most practical manner of making a key is to take the lock apart. This can be done by drilling out the two rivets at the top of the case (one on each side) and removing the top plate located between the shackle holes. The plug can then be bounced out of its cavity.

Some models had the plug pressed in and the fit is pretty tight. It may be necessary to drill a small hole in the bottom and use a punch to drive the plug out of the case. You could have a blank fashioned by a machinist and then fit the key by filing when you have the plug in your hand. We once made an operating key using a key from a mortise lever lock keyway blocker. I will have to admit though, that we were lucky since that key was only a three blade.

I would think that a Borkey 542 would work quite well or perhaps you could use a Fichet blank. If you really want to make an operating key for this piece please drop me a note and I'll send you all of the information that I have on the procedure. The most recent information that I have on the 4-Way shows collector prices ranging from \$35 to \$100. Thanks for writing to *Shop Talk* and letting our readers see one of the oldies. 03

Q: I would like to know what key the padlock in illustration four takes and what the cuts are. It has the following numbers stamped on it: 9535. It looks like it takes a flat key, but it has four pins in it.

All the help you can give me will be appreciated.

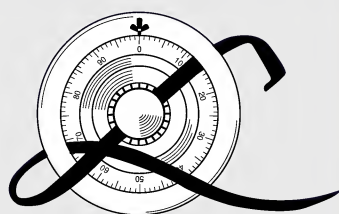
Robert Purdy
California

A: Bob, your lock is a pin tumbler

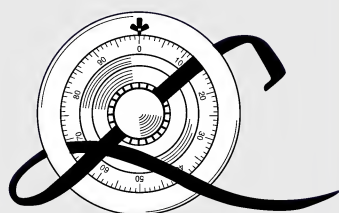


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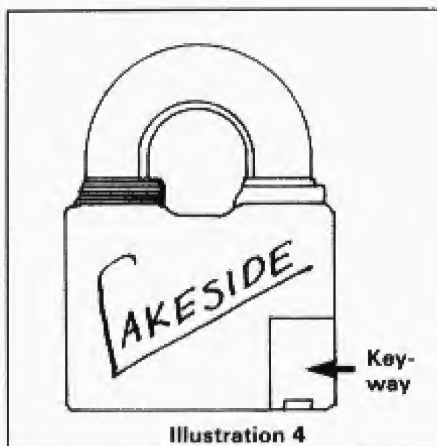


Illustration 4

push-key type of which there were a blue million made during the late 1800's and early 1900's by just about every lock manufacturer of that era. Since all of these locks are so similar in appearance it is somewhat difficult to tell from your drawing just who the manufacturer really was.

Based on the information given, I have narrowed it down to Yale or Corbin and I believe that the piece was made by Corbin. If I'm correct it would be one of their 990 series using a #8505 blank and 990 gauge keys. The 8505 blank may be difficult to find, but you could probably use a Yale 1½ or Ileo 1239.

In the absence of a set of 990 gauges keys I would try the 2A bittings and depths. This is a four pin lock using a five pin blank. Skip the first space, (next to the bow) and cut tip to bow using the numbers on the lock, (i.e. 9535). The spacings and depths are: .219; .375; .531; .687; .843. 3 = .290; 5 = .262; 9 = .206.

You could also practice your impressioning skills with this lock. Lots of luck with this one Bob, let us know how you make out with getting an operating key and thanks for writing to *Shop Talk*. 03

For

July 1988

Issue

Code Correction

See page 66.

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Letters

Continued from page 6

knob, has the extra reach needed to shim open the cylinder, using an uncut key blank to raise and lower the pins; as in conventional shimming. Of course, this is only possible if the door is accessible from the inside, so as to facilitate disassembly of the lockset.

I am interested in trying your usage of the shim pick because then it would have a double duty, but I really do feel that its first function is what the name implies. Thank you for hearing my thoughts.

T.J. White
New York

Locksmith Curbs Tool Sales In His Town

In reference to a letter printed in the June 1988 issue of *The National Locksmith* by John Richmeier, I know how he feels about people selling Slim Jim's to everyone that walks down the street.

Two years ago I retired and sold my locksmithing company in south Florida and moved to Arizona. After being out here for over a year several of my friends talked me into going back into the business, so I did.

The first problem that I had here was, like all locksmiths, the police, garages, wreckers and just about everyone else was opening cars. Well in just a short time we have stopped that practice. The mayor and the town manager are personal friends of my wife and I. I went and talked to them and so far we have had no more problems with this kind of thing.

Secondly, every auto supply store, swap meet, etc. was selling Slim Jim's to the public. I just went to the owners of these auto stores and I told them that they were selling tools for professional thieves which I thought was not legal and that I was going to report them. Would you believe they got rid of all of their Slim Jim's and no longer sell them?

The same problem was apparent at the swap meet. There was a large seller that had the tools. I was unsure about what to say to him, so with my wife standing next to me I very loudly said that I thought it was a crime to sell car opening tools to just anyone and that this person should be arrested for sell-

Continued on next page



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Continued from previous page

ing thief tools to the general public. Ever since that day I have never seen another Slim Jim at the swap meet.

I really don't think that there is any way that we are going to stop all that is going on, but if we all stick together we can try.

One of the ways that I broke them in our town was to tell the police that since they wanted to be locksmiths then they can open all of the cars; not just the easy ones. They didn't like that at all. Now whenever someone locks themselves out of the house or out of their car the police call me.

Another way that I have gotten in good with the police here is I told them that in case of an emergency like someone with a heart attack or something of that nature, I will open any car, house or whatever at no charge to anyone. This has gone over quite well and has not been abused. They only call if they really need me.

Jim Tolle
Arizona

Technitips

Continued from page 14

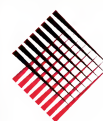
of the tool, is that the diameter of the wire is approximately the same as the cut difference of the lock. Use the diameter of the wire to judge the difference in the cut depths.

Cal Hobson
Nevada



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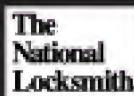
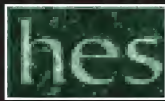
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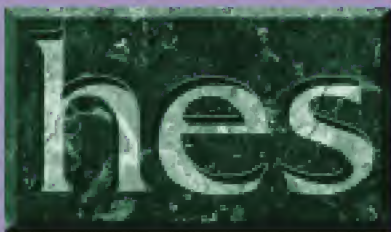
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Corbin Core Decoding

Continued from page 50

Also, many institutions have realized the liabilities that they are letting themselves in for if they fail to provide a proper key control system in today's lawsuit-hungry society, and that their best defense armament is a fully trained and qualified locksmith to institute and maintain a proper system.

Many of them also realize that you tend to get what you pay for, too, and are willing to pay top dollar plus an excellent benefit package to get the proper person for the position.

The opportunities abound in servicing interchangeable core and removable core locksets. Tap into your potential and reach for your share of this business. You will be glad you did. ■

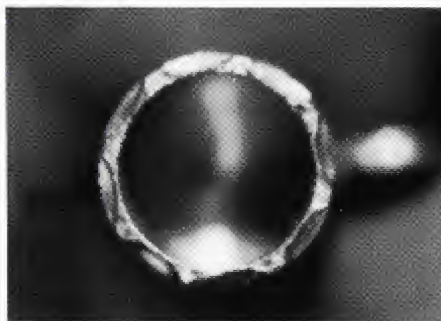
Fort Tubular Padlock

Continued from page 62

The key was actually made in a matter of a few steps. In photograph four both the continuing marks and in particular the initial marks are exceptionally clear. The marks left in the appropriate spaces on the key blank is actually in the shape of the tubular pin! In photograph five you have a clear view of the completed key.



4. Continuing marks and initial marks are very clear.



5. Completed key with impressing marks filed in.

This is a quick and convenient method for making a first key on many different types of tubular locks. ■

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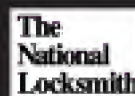
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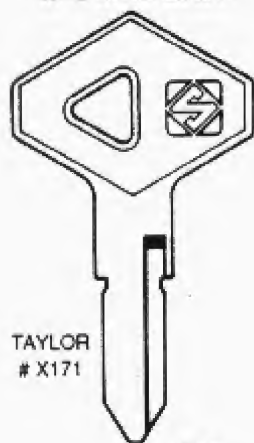
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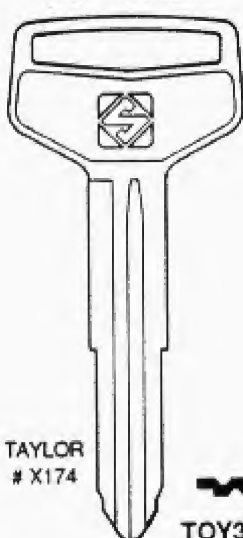
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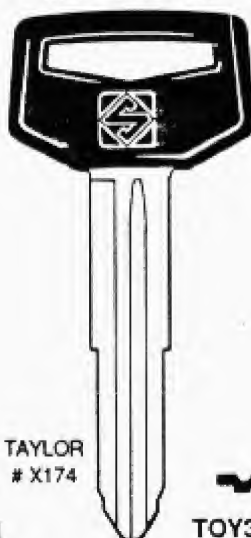
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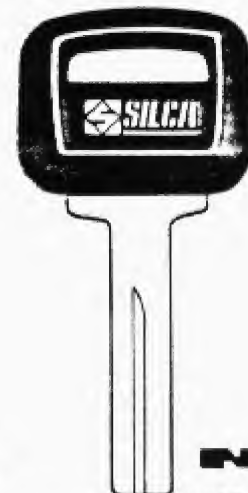
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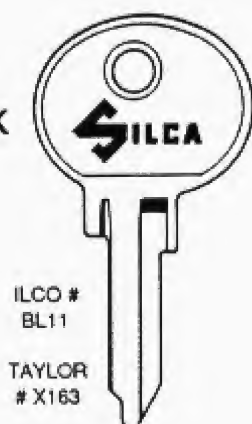
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1-2-3-5-7
0-4-6-8-9



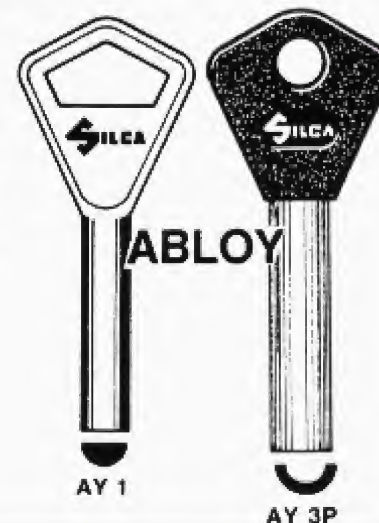
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